

REMARKS

Claims 1, and 3-7 are pending in the present application, Claim 2 having been cancelled herein. The Office Action and cited references have been considered.

Appreciation is expressed to Examiner Payne for his courtesy during the interview held with undersigned counsel on November 1, 2004. The substance of that interview will be included in the following Remarks, on the basis of which favorable reconsideration is respectfully requested.

As discussed with the Examiner during the interview, claim 1 has been amended only to place it in somewhat better form. A draft of the amended claim was reviewed during the interview, at which time the Examiner indicated that the proposed amendments did not add any limitations and would appear to be enterable at this time. Such entry is requested.

The rejections presented in the Action are traversed, basically for the reason that the multiplexer defined in claim 1, from which all of the other pending claims depend, is clearly not disclosed in the applied reference.

During the personal interview held on November 1, 2004, undersigned counsel pointed out that the invention defined in claim 1 is a multiplexer comprising a periodic filter. This filter acts on a spectrum of optical wavelengths that are

initially spaced from one another by a basic step "s" in order to filter a group of selected wavelengths of the spectrum such that adjacent wavelengths of the group are spaced from one another by a group step equal to  $ks$ , where  $k$  is an integer greater than 1, which means that  $k$  must be equal to at least 2.

It was further pointed out that the system disclosed in the applied reference does not include a periodic filter and does not filter out from a spectrum of optical wavelengths a group of wavelengths that are spaced from one another by wavelength differences that are greater than the differences between the wavelengths in the original spectrum.

The nature and operation of a periodic filter is described clearly in the present Specification, for example on page 14. A periodic filter receives a signal containing a spectrum of channels, which are also described in the present Specification as wavelengths, and filters out a group of those channels that are spaced apart by an amount greater than the spacing between the channels in the initial signal. The applied reference does not disclose such a filter.

That which characterizes a periodic filter employed in the present invention is that it has three ports. When connected to drop a group of wavelengths, or frequencies, from a signal containing a plurality of wavelengths, the plurality

of wavelengths having an initial spacing  $s$ , the initial signal is applied to a first port. There appears at a second port a group of optical wavelengths, where the wavelengths in that group are spaced apart by a larger step  $ks$ . All of the remaining wavelengths are transferred to the third port.

The simple fact is that none of the filters disclosed in the applied reference performs in this manner. In the case of the primary filters, a signal containing several bands of wavelengths is applied to an input, one or more of the bands appears at one of the outputs, with the wavelengths in the bands retaining their original spacing, and the remaining bands appear at the other output. In the case of the secondary filters, a single wavelength appears at one output and all of the remaining wavelengths appear at the other output, with the same spacing between wavelengths as in the original signal.

In the explanation of the rejection of claim 1, reference is made to three sections of the reference: column 6, line 53-column 7, line 15; column 11, lines 54-60 and column 13, lines 55-60. None of these parts of the reference Specification mentions, or describes the function of, a periodic filter.

The cited portions of the reference all uniformly refer to band devices that drop or add an entire band containing a

group of channels without altering the spacing between those channels. Column 7, lines 8-16 contains a description of a portion of the circuit shown in Figure 8 in which each of filters 60, 62 and 64 separates out one channel without altering the spacing between the remaining channels.

While the cited descriptions in columns 11 and 13 mention several different wavelength spacings, one skilled in the art would understand, from those passages in the reference Specification, as well as the remainder of the reference Specification, that nothing more than possible alternative wavelength, or channel, spacings in the initial signal are being suggested. Indeed, the description at column 13, lines 55-60 of the reference clearly indicates that the various spacings mentioned are simply several among a number of possible alternatives. In this connection, attention is directed to the material at column 1, lines 13-20 of the reference, which discusses so-called DWDM, which involves closer spacings than traditional wavelength division multiplexing. Consideration should also be given to the disclosure of column 7, line 66 to column 8, line 6, wherein it is pointed out that earlier commercial devices provided 200Ghz spacing, while current devices are available for 50Ghz spacing. These statements in the reference Specification all make clear that the mention of 50Ghz, 100Ghz and 200Ghz simply

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represent alternative wavelength spacings within the initial signal that is to be multiplexed. No statement has been found in the reference that would lead to a contrary understanding.

Thus, those skilled in the art would understand that the disclosures at column 11, lines 54-60 and column 13, lines 55-60 of the reference simply identify alternative spacings within a band, as it is applied to a filter, and say nothing about the concept of filtering out wavelengths having a spacing greater than the spacing in the initial signal. This is particularly apparent from the sentence at column 13, lines 58-60, which clearly indicates that 50Ghz is a spacing that offers an advantage over the other spacings mentioned in that paragraph.

In view of the foregoing, it is submitted that the applied reference does not, in fact, contain any disclosure of a periodic filter or of a filter that will have the specific filtering effect defined in the last four lines of amended claim 1.

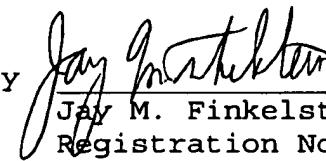
Accordingly, it is requested that the prior rejections be reconsidered and withdrawn, that claims 1-7 be allowed and that the Application be found in allowable condition.

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If the above amendment should now place the application in condition for allowance, the Examiner is invited to call undersigned counsel to resolve any remaining issues.

Respectfully submitted,

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